MATERNAL CONTAMINANT EXPOSURE IN CANADA: CONVENIENCE AND RANDOM SAMPLING COMPARISONS

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Background / Aims

Recently the Canadian Health Measures Survey (CHMS) and a Health Canada study have examined in southern Canada a similar group of contaminants in women of child bearing age (WCBA) and mothers, respectively. This paper will examine the differences in these contaminants between a random sample of WCBA and a convenience sample of mothers, both Canadian born and non-Canadian born.

Methods

The CHMS a national health survey of over 5000 individuals has concentrations of contaminants in women of child bearing age in a stratified random population sample (n=285, 2007-2009). The Health Canada study has collected a convenience sample of first time mothers from five Canadian centres and includes both Canadian born and non-Canadian born mothers (n=125, 2005-2007). Concentrations of total mercury, lead, several polychlorinated biphenyl congeners, and various organochlorine pesticides are compared.

Results

Initial data analysis has found that the concentrations for many of these contaminants are age dependent, increasing with age and that mothers born in Canada had lower concentrations of many contaminants compared to mothers not born in Canada. The concentration of many of these contaminants in WCBA from the CHMS is intermediate between these two groups of mothers. Further analyses of the WCBA will explore the differences seen in the Canadian vs non-Canadian born mothers to see if there are contaminant pattern differences between mothers and WCBA.

Conclusions

Both women of child bearing age and first time mothers have a similar suite of contaminants in their blood. In-depth analysis has found that there are significant differences between mothers born in Canada and mothers born outside of Canada